



# VIFTER & MILJØ AS

INDUSTRI - BYGG - ANLEGG - MARINE



## EVS

The EVS automatically controls the speed of single phase (230 Vac – 50 Hz) voltage controllable electric motors with a 0-10 Vdc or 0-20 mA control signal selectable by switch 19. It is possible to invert the control signal to 10..0 Vdc/20..0 mA by switch 16. To power on, an external switch on the power supply is provided. A supplementary terminal block is foreseen to branch off 230 Vac not controlled for 3-wire motor connection, a telltale or to control a valve or damper.

There are two working modes, internally selectable by switch 18.

- a) Kick start: the motor will always start (or restart) at max. speed for 10 sec, after that the motor speed automatically follows the position set by the 0-10 Vdc or 0-20 mA control signal.
- b) Without kick (soft) start: the motor starts according to the position set by the 0-10 Vdc or 0-20 mA control signal.

### PWM signal

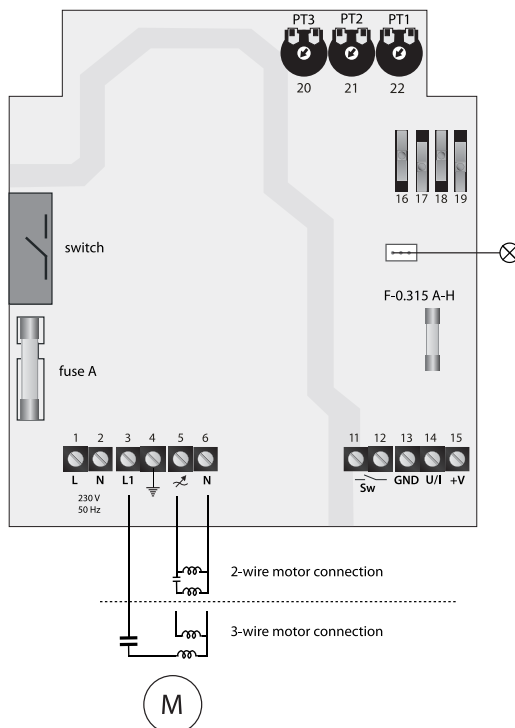
The CNVT-PWM-010V can easily be connected to provide a conversion of a PWM signal to a 0-10 V signal (see below).

### Features

- < Power supply: 230 Vac 50 Hz
- < According to the low voltage directive: 2006/95/EC / the EMC directive: 2004/108/EC

	EVS-0-15 DT	EVS-0-30-DT	EVS-0-60-DT	EVS-0100-DT
Current rating (A)	0.1 - 1.5	0.1 - 3.0	0.5 - 6.0	0.5 - 10.0
Fuse (A) 5*20 mm	F-3.15 A-H	F-5.0 A-H	F-10.0 A-H	F-16.0 A-H (16*32mm)

### Wiring diagram

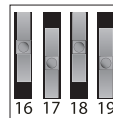


#### High voltage:

1. L: mains supply 230Vac / 50Hz – INPUT
2. N: neutral – INPUT
3. L1: 230 Vac not regulated output to motor (after fuse) – OUTPUT
4. Earth terminal (only for 3, 6 & 10 A)
5. M- regulated output to motor – OUTPUT
6. N – neutral – OUTPUT

#### Low voltage:

11. On/off switch
12. On/off switch
13. GND – ground
14. U - control signal 0÷10Vdc (input impedance 90 kOhm)  
I - 0÷20mA (input impedance 250 Ohm)
15. +V – low voltage power supply: 12 Vdc / 1mA for external trimmer



16. switch down = 0-10 V  
switch up = 10-0 V (select increase or decrease input voltage to control speed)
17. switch down = disable off-level  
switch up = enable off-level
18. switch down = disable kickstart  
switch up = enable kickstart
19. switch down = 0-20 mA  
switch up = 0-10 V (select current/voltage)

#### Example shows:

- 16. up = 10-0 V
- 17. down = disable off-level
- 18. up = enable kickstart
- 19. down = 0-20 mA

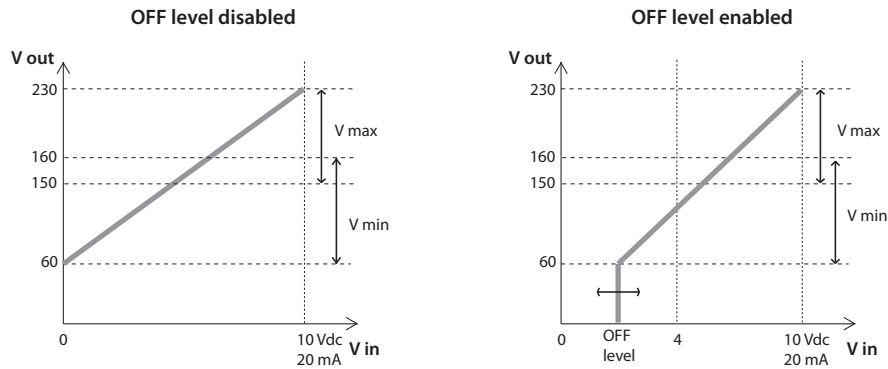


20. Off level adjustment trimmer: 0-4 V or 10-6 V (depending on switch 16 – Fig.).
21. Minimum speed adjustment trimmer range: 60-160 V
22. Maximum speed adjustment trimmer range: 165-230 V



- LED green: normal operation.
- LED blinking: standby (input signal < off level).

## Operation

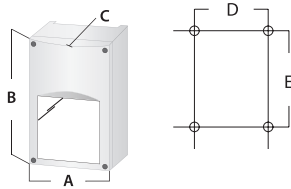


### Calculation formula

$$V_{out} = ((V_{in}/10) * (V_{max} - V_{min})) + V_{min}$$

$$V_{out} = (((V_{in} - \text{OFF-level}) / (10 - \text{OFF-level})) * (V_{max} - V_{min})) + V_{min}$$

## Dimensions & fixing



order code	A	B	C	D	E	net weight	gross weight
EVS-0-15-DT	115	180	85	98	140	575 g	690 g
EVS-0-30-DT	115	180	85	98	140	625 g	740 g
EVS-0-60-DT	115	180	85	98	140	785 g	900 g
EVS-0100-DT	115	180	85	98	140	785 g	900 g



## PWM | converter

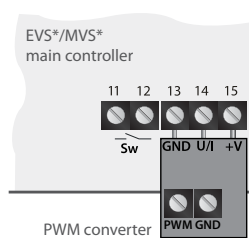
This PWM converter is designed as a 'plug-in' for EVS\*/MVS\* controllers to convert a PWM signal to an analogue 0-10 V signal. It is to be screwed directly into the terminal blocks of the main controller.

### Characteristics

Input signal:  
 < 24 V amplitude  
 < 56 - 2000 Hz  
 < duty cycle 1-100 %

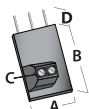
Input duty cycle	Output voltage
0 %	0 V
10 %	1 V
20 %	2 V
...	...
100 %	10 V

## Connection



- 13. GND: ground
- 14. U/I: control signal 0-10 Vdc output
- 15. +V: low voltage power supply 12 Vdc from controller

## Dimensions



order code	A	B	C	D	net weight	gross weight
CNVT-PWM-010V	15	22	9	6	3,0 g	3,5 g